

REMARKS

The Office Action dated February 26, 2008 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1-26 are pending in the application. Claim 1 has been amended to more particularly point out and distinctly claim the subject matter of the invention. Claims 4-5 have been canceled without prejudice or disclaimer. No new matter is added. Applicant submits the pending claims for consideration in view of the following.

Claims 1 and 4-6 were rejected under 35 U.S.C. §102(e) as being anticipated by Ishii (US 20040090215). The Office Action took the position that Ishii discloses all the limitations of claims 1 and 4-6. This rejection is traversed as follows.

Claim 1, upon which claim 6 depends, is generally directed to a charge pump circuit to supply current to a controlled oscillating circuit. The charge pump circuit includes a first switch that includes a first state and is coupled to a gate of an output diode. The charge pump circuit also includes a second switch that includes a second state opposite from said first state and is coupled to a source of the output diode. The second switch provides a charge up current to the output diode when the second state comprises an ON state, and the first switch is coupled to a capacitance that holds a bias when the second switch comprises the ON state.

The foregoing claim recites limitations that are not disclosed or suggested by Ishii.

Ishii generally discloses a DC-DC converter. The Ishii DC-DC converter is disclosed as having a step-down converter 51, a step-up converter 52, and a control section 53. Ishii discloses that the step-down converter 51 includes a first switch 2 and a first diode 3, and the step-up converter 52 includes a second switch 5 and a second diode 6. The step-down converter 51 and the step-up converter 52 share an inductor 4. The DC-DC converter 50 also includes a capacitor 7. The step-down converter 51 and step-up converter 52 receive a direct current voltage and operate to modify the direct current voltage, in accordance with commands from the control section 53, to produce a controlled direct current voltage to a load 8.

However, Ishii fails to disclose or suggest, at least, “a second switch comprising a second state opposite from said first state, the second switch coupled to a source of the output diode...wherein the first switch is coupled to a capacitance configured to hold a bias when said second switch comprises the ON state,” as recited in claim 1.

Instead, in paragraph [0081] of Ishii, when the first switch 2 is in an ON state and the second switch 5 is in an OFF state, the second diode 6 turns to an ON state. During such a state of operation, the current flows from the direct current input power source 1 to the output capacitor 7 via the inductor 4. However, Ishii fails to disclose that the capacitor 7 holds a bias when the second switch 5 is in an ON state and the first switch 2, consequently, is in an OFF state.

Paragraphs [0078]-[0079] also describe operations of the Ishii converter 50, but these paragraphs present conditions where the first switch 2 and the second switch are

both in an ON state, which is contrary to the “state opposite from” limitation of claim 1. On pages 2-3, the Office Action appears to rely upon paragraphs [0067]-[0069] of Ishii to anticipate all the limitations of claim 1. However, a review of these paragraphs demonstrates that paragraphs [0067]-[0069] do not disclose or suggest, at least, “a second switch comprising a second state opposite from said first state, the second switch coupled to a source of the output diode...wherein the first switch is coupled to a capacitance configured to hold a bias when said second switch comprises the ON state,” as recited in claim 1. Instead, these paragraphs provide a general description of the Ishii DC-DC converter, without reference to the foregoing limitations.

Accordingly, Ishii fails to disclose or suggest all the limitations of claim 1. Therefore, Applicant respectfully requests that the §102(e) rejection of claim 1 be withdrawn. Additionally, Applicant respectfully requests that the §102(e) rejection of claim 6 be withdrawn for the dependency of claim 6 from claim 1, and for the patentable limitations recited therein.

For example, claim 6 recites “the first switch disconnects the gate of the output diode when said first state comprises an OFF state.” However, Ishii fails to disclose these limitations. The Office Action relies on paragraphs [0067]-[0069], yet these paragraphs fail to provide for the foregoing limitations, especially when viewed under the conditions presented in claim 1, from which claim 6 depends. As such, Ishii fails to recite the limitations of claim 6, and Applicants respectfully request withdrawal of the §102(e) rejection of claim 6.

Claims 2-3 and 7-8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ishii in view of Kinbara (US 6,259,714). Regarding claims 2-3, the Office Action took the position that Ishii fails to disclose that the first and second switches are each a diode having different semiconductor material. Regarding claims 7-8, the Office Action took the position that Ishii fails to disclose that the first and second switches include an n-channel and p-channel metal oxide semiconductor. However, the Office Action also took the position that these limitations are presented by Kinbara in a manner that would render the claimed invention obvious. This rejection is traversed on at least the grounds that a combination of Ishii and Kinbara fails to disclose or suggest all the limitations of claims 2-3 and 7-8.

A discussion of Ishii with respect to claim 1, from which claims 2-3 and 7-8, is presented above. Kinbara generally discloses a power source controller. In the Kinbara controller, a current switching circuit includes a first and second switching element connected to a laser diode. The current switching circuit turns on the first switching element while turning off the second switching element when a laser output command signal is off, thereby circulating a current from a constant current source within the current switching circuit through the first switching element. Also, the current switching circuit turns on the second switching element while turning off the first switching element when the laser output command signal is on, thereby outputting the current from the constant current source to the laser diode through the second switching element.

However, Kinbara, similar to Ishii, fails to disclose or suggest, at least, “a second switch comprising a second state opposite from said first state, the second switch coupled to a source of the output diode...wherein the first switch is coupled to a capacitance configured to hold a bias when said second switch comprises the ON state,” as recited in claim 1.

Accordingly, a combination of Ishii and Kinbara fails to disclose or suggest all the limitations of claim 1, from which claims 2-3 and 7-8 depend. Therefore, Applicants respectfully request that the §103(a) rejection of claims 2-3 and 7-8 be withdrawn for the dependency of claims 2-3 and 7-8 from claim 1, and for the patentable subject matter recited therein.

The foregoing comments made with respect to the positions presented in the Office Action are not to be construed as acquiescence with other positions presented in the Office Action that have not been explicitly contested. Accordingly, the above arguments for patentability of a claim should not be construed as implying that there are not other valid reasons for patentability of the claim or other claims. Additionally, the Applicant does not acquiesce that the cited art anticipates or renders obvious any of the claims as previously presented, and reserve the right to pursue any of the previously presented claims in a subsequent application.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by

telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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